The draft EIS/EIR classified terrestrial habitats in the vicinity of the footprint of the project facilities as urban,[2] disturbed,[3] foothill oak woodland, riparian and wetland habitats. The Auburn dam site is situated within the project area. The natural landscape in this section of the river canyon has been severely disturbed by Auburn Dam construction activities and is generally devoid of vegetation. Cofferdam debris (excavated bedrock) is scattered in the dewatered channel and extends far beyond the bypass tunnel outlet. Mature oak woodland vegetation occurs upstream and downstream of the project area and pockets oak woodland habitat are present in areas where slopes were not graded for access roads. Sparse vegetation (grassses, shrubs, small trees) is present and riparian and wetland habitats are limited in the disturbed areas. The majority of the project area where construction would occur is either covered by boulders or loose gravel of various sizes, or by grasses and shrubs that have become establish in areas that were previously disturbed.

The PCWA's service area includes all areas of Placer County where construction and operation of the proposed project or other alternatives would have indirect effects on fish and wildlife resources through land use changes and habitat conversion within areas to which water would be delivered.

The American River Basin area is described in the draft EIS/EIR. The regional project area is defined by the indirect effect study area and encompasses the major CVP and SWP reservoirs draining to the Delta, the rivers downstream of these reservoirs, and waterways of the Sacramento River and American River basins, including the Sacramento-San Joaquin Delta, and the Yuba and Feather Rivers that could be affected by Reclamation's changes in operation of the CVP or the DWR's changes in operation of the SWP facilities.

BIOLOGICAL RESOURCES

Existing Conditions

Descriptions of biological resources in the project study area and for downstream river systems are provided in the draft EIS/EIR. The biological resources in the project study area include: 1) terrestrial plants and animals which inhabit or utilize the natural habitats and open space areas within project area; 2) various terrestrial habitats within the undeveloped open areas and agricultural lands of PCWA's service area and regional project area, including, but not limited to, valley/foothill riparian, oak woodland savannahs, chaparral and shrublands, annual grasslands, grain and pasture fields; 3) wetlands, including aquatic and riparian habitats of the Auburn Ravine and other tributaries and drainages within PCWA's service area that may be directly or indirectly affected by the proposed project; 4) plant and animal species that rely on the aquatic habitats of Folsom and Natoma Reservoirs and other areas of open water, freshwater marshes and

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[2]Urban habitat includes paved and unpaved roadways, public utilities, and residential development.

[3]Disturbed habitat is designated for areas with grasses and scattered shrubs and trees providing less that 10 percent canopy cover, areas of bare bedrock, and talus slopes and includes areas that have not been disturbed in several years, but where the disturbance has created conditions limiting tree and shrub environment (i.e., areas of cofferdam remnant, bypass tunnel, and batch plant).

seasonal streams and tributaries; 5) various anadromous and resident fishes which reside in, or pass through, not only the lower American River, but the Delta, Suisun Bay and the Sacramento River that may be cumulatively affected by indirect and interrelated project impacts; and 6) the terrestrial resources (riparian and wetland vegetation and associated species that utilize it for habitat) of the American and Sacramento rivers and reservoirs, as well as Oroville Reservoir and the Feather River that may be influenced by the proposed project or alternatives and other reasonablely foreseeable actions.

Aquatic Resources

Project Area

The aquatic resources of the Middle Fork American River from below Ralston Afterbay to the confluence with the North Fork and downstream to Oregon Bar include both warm and coldwater fish species. Resident stream fish known to inhabit the Middle Fork of the American River include rainbow and brown trout, hitch, Sacramento sucker, pikeminnow, and riffle sculpin. Additional species inhabiting the North Fork of the American River, from the confluence with the Middle Fork downstream to Oregon Bar above Folsom Reservoir include smallmouth bass, brown bullhead, green sunfish, largemouth bass, spotted bass, and other centrarchid species.

PCWA Service Area

Aquatic resources within PCWA's service area that may be affected by the proposed project include aquatic and riparian habitats of the Auburn Ravine and other perennial and intermittent streams and drainages. Besides the Auburn Ravine, a number of intermittent or perennial drainages cross the PCWA service areas. The quality of aquatic and wetland habitats in the in and along the drainages varies considerably, and is influenced by the degree of channelization, channel lining, and whether the flow is intermittent or continuous.

Daily and monthly flows in the Auburn Ravine fluctuate significantly throughout the year as the water enters the ravine from a myriad of sources including natural streamflows, stormwater runoff, irrigation conveyance and return flows, hydroelectric generation releases, and continuous effluent discharges from the City of Auburn Wastewater Treatment Plant. In contrast to natural flows, current flows are generally highest during summer and lowest during the fall months.

Using the seasonal pumps, Reclamation delivers about 4,000 AF of American River water to the Auburn Ravine tunnel to the Foothill Water Treatment Plant and to the Auburn Ravine for conveyance to irrigation customers. In addition to the American River, sources of water conveyed to the Auburn Ravine for irrigation purposes come from the North, Middle, and South Forks of the Yuba River, and the Bear River. Nevada Irrigation District also uses the Auburn Ravine to convey water for agricultural irrigation diversions. South Sutter Water District diverts PCWA water from Auburn Ravine downstream of Highway 65. From April through September, agricultural returns flow into the Auburn Ravine (CH2MHill 2001).

American River Basin

The aquatic resources of the American River Basin include all aquatic habitats and associated species that inhabit Folsom and Natoma reservoirs and other areas of open water, freshwater marshes and seasonal streams and tributaries within the regional project area. Key aquatic

species are fisheries, especially anadromous fish including chinook salmon, steelhead, American shad, and striped bass of the lower reaches of the American and Sacramento Rivers.

Because Folsom Reservoir is also used for power production, flow-regulation impoundments (afterbays) were necessary just downstream of each of these reservoirs. The afterbay is Lake Natoma (Nimbus Dam) downstream of Folsom Dam. Terrestrial habitats around the afterbay range from barren drawdown zones to narrow bands of woody riparian and herbaceous vegetation. These habitats are alternately flooded and exposed daily and seasonally. Habitat values for fish and wildlife are thus relatively limited. These nearshore habitats would not be expected to change under the without-action condition.

Regional Area

Regional aquatic resources include various anadromous and resident fishes which reside in, or pass through, not only the lower American River, but the Delta, Suisun Bay and the Sacramento River that may be cumulatively affected by indirect and interrelated project impacts.

Terrestrial Resources

Facilities construction and installation of the proposed project features would cause temporary and permanent impacts at the project site, along the alignments for the access roads and pipelines, at the recreational access parking areas, and any area of terrestrial habitat disturbance. Direct impacts from construction of a new access roads and recreational facilities could result in the permanent loss of additional wildlife habitat. The habitats and vegetative communities and acreage affected by these drainage/wetland crossings are not.

Growth inducing effects of availability of new water supplies are facilitated by the project by the direct delivery of PCWA's MFP water to the cities and unicorporated areas serviced by PCWA. Future development in the project area could result in the conversion of natural open space areas and agricultural lands that provide higher habitat values for wildlife compared to urban environments (residential, commercial, industrial). Land conversions and urban development could be facilitated on an unknown number of acres of various vegetation types within the PCWA service area.

Project Area

Terrestrial resources in the project area include the plants and animals which inhabit or utilize the natural habitats and open space areas within and near the local project area. The terrestrial habitats in the local project area have been severely disturbed by construction activities related to building the Auburn dam. For the most part, the site is generally devoid of vegetation. Previous construction activities at the site destroyed approximately 500 acres of riverine canyon and upland wildlife habitat. The Service estimated 450 acres of chaparral, 34 acres of riparian and 12 acres of riverine habitats were lost due to construction activities.[4] (FWS 1994). A flood event in 1986 broke through the cofferdam at the dam site and rock debris filled the dewatered river channel.

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[4]Acreages were delineated and planimetered by using black and white aerial photographs of scale 1:18,000 dated 1965 (pre-construction) and of scale 1:12,000 dated 1975 (post-construction).

Today, cofferdam debris (excavated bedrock) is scattered in the dewatered channel and extends far beyond the bypass tunnel outlet. Mature oak woodland vegetation occurs upstream and downstream of the project area and pockets of the same are present in areas where slopes were not graded for access roads or subject to landslides. The disturbed areas consist of vegetation at various stages of succession, from area of grasses, shrubs, and small trees to areas of some canopy cover. Limited riparian and wetland vegetation communities also are present in the project area. The majority of the project area where construction would occur is either covered by boulders or loose gravel of various sizes, or by grasses and shrubs that have become establish in areas that were previously disturbed.

PCWA Service Area

PCWA conveys and delivers the MFP water diverted from the seasonal pump station to PCWA's Service Area Zones 1 and 5. This water is used to meet current needs, serve as back-up to the Drum Spaulding Project water, and accommodate growth as projected in approved general, specific, and community planning documentation adopted from these areas of western Placer County. Water served to Zone 5 is primarily untreated and used to support agriculture. Zone 1 includes the cities of Rocklin, Loomis and Auburn, and portions of the City of Lincoln, as well as the communities of Bowman, Horseshoe-Bar, Penryn, Newcastle, Ophir, Sabre City and Granite Bay.

American River Basin

Following the construction of Folsom Dam and Reservoir in 1955, a gradual process of change began for the terrestrial resources of the lower American River. In general, the frequency and magnitude of peak flows diminished throughout the year, average winter-spring flows declined, and average summer-fall flows increased. Associated with these changes has been a decline in the rate of formation of gravel bars. Existing gravel bars are sparsely vegetated and coarser as fine sediments have been scoured and carried downstream. The amount and type of riparian vegetation, such as cottonwoods, willows and alders, associated with depositional features has decreased, especially in upper and middle sections of the river as less fines are available for long-term moisture retention. The number of cottonwoods in the active zone have been slowly declining as older trees die. Other tree species associated with high terraces, including valley and live oaks, ash, box elder, and some shrubs have been increasing in numbers along the border and in the outer zone since the dam and reservoir were completed.

A prevalent land feature of Folsom Reservoir, especially during the summer and drought periods, is the drawdown zones around the margin of the lake. This essentially barren soil zone exists as a consequence of the managed water fluctuations in the reservoir, which frequently lowers the water level by 50-100 feet or more during late spring, summer and fall. In many years, the entire shoreline of the reservoir consists of barren, decomposed-granite soil virtually devoid of vegetation. Such zones are essentially incapable of sustaining vegetation, especially woody species, because of poor soil conditions caused by wave action due to wind and boats and the erratic inundation and dewatering cycles dictated almost exclusively by existing water and power operations. Thus, habitat values for wildlife in these drawdown zones are minimal.

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Special Status Species
The Service has previously provided a list of special status species that may be affected by the project. This list identified species (mammals, birds, amphibian, reptiles, invertebrates, and plants) that are federally listed as endangered or threatened under the ESA, and that either occur or have the potential to occur in the general vicinity of the project and the project service areas.

FUTURE CONDITIONS WITHOUT PROJECT

Without any action alternative, PCWA would continue to rely upon the operation of the seasonal pumps for its MFP water supply, and within a few years PCWA would probably request that Reclamation install the pumps earlier in the year for longer periods of use (April through November) as customer demands and overall reliance on the pump station increase. Without the proposed project PCWA would continue to use water from sources already available to the water district:

(1) Pacific Gas and Electric Company's Drum-Spaulding Project on the Yuba and Bear rivers and PCWA's MFP on the American River are two sources of water currently available to PCWA to serve areas in western Placer County. PCWA has a contract with PG&E for 100,400 AFA of Drum-Spaulding Project water, at a maximum delivery rate of 244 cfs to serve Zone 1, encompassing the communities of Auburn, Loomis, Rocklin, Lincoln, Newcastle, Penryn, and parts of Roseville.

(2) PCWA also holds existing appropriative rights to divert 120,000 AFA from the MFP under Water Right Permits numbers 13856 and 13858, as authorized by the SWRCB. PCWA uses Drum-Spaulding Project water supplies first to meet service area demands. PCWA then uses MFP water supplies from the American River to satisfy demands not met by the DSP, or as needed to provide back-up supplies when the DSP is not operating.

(3) A third water entitlement is through a water service contract, most recently amended in 1992, with Reclamation for up to 117,000 AFA of water from the CVP. PCWA has never taken delivery of any water under this contract. An amendment to this contract is currently being negotiated. Since Reclamation has no rights to divert water from the American River upstream of Folsom Reservoir, the current contract negotiations contemplate the diversion of up to 35,000 AFA of PCWA's CVP entitlement from Folsom Reservoir or from the Sacramento River.

(4) In addition, PCWA has the ability to purchase and take delivery of water from Nevada Irrigation District for delivery to and use in various areas of its service area.

Reclamation has identified several reasonably foreseeable Federal actions that, over the next 25 years, would result in substantial changes in CVP system operations and an increase of American River or Sacramento River diversions for municipal and industrial and agricultural water supplies for use in the American River Basin. These actions include new and renewal CVP long-term

contracts, Warren Act contracts for the use of Federal facilities to obtain water rights water, agreements with Water Forum participants stipulating the conditions of dry year water use agreements, and various flood control projects (Folsom Reservoir), and infrastructure improvements, including the PCWA pump station project. The reasonably foreseeable Federal actions have separate utility from the proposed action and would likely be implemented whether or not the proposed project is implemented.

Aquatic Resources

Project Area

With the exception of a few stands of sandbar willows in the unstable aquatic environment of fluctuating flows in the downstream river channel, for the most part, the environmental landscape of the project area has remained unchanged for more than three decades. Without the project, the aquatic resources of the project site area would be expected to remain fairly unchanged.

PCWA Service Area

The development of and loss of habitat in PCWA's service areas are likely to continue, but may be slowed without the proposed project. The ability to divert and convey some portion of PCWA's available water supplies, acquired through MFP surface water rights, would likely be impaired without the project. Continued development and loss of habitat is likely due to the availability of alternative water sources to supply the "immediate" need of Placer County. With the constrained use of the seasonal pumps, PCWA does not currently have the ability to divert the full MFP water rights amount, and conveyance is limited in certain areas. PCWA would be limited to serving its existing service areas with currently available supplies that can be diverted by the seasonal pumps with expanded diversion periods. Adverse effects related to water diversions, such as fish entrainment at diversion points or flow/water quality issues, would be similar to existing conditions.

American River Basin

The gradual decrease in riparian vegetation along the lower American River has caused a corresponding decrease in available habitat for those species requiring riparian vegetation for perching, roosting, foraging, or nesting, including raptors, woodpeckers, wrens, neotropical migrants, and many other birds. These dynamic processes will continue uninterrupted in the future without the proposed project and subsequent operational changes. However, riparian and instream habitat improvement programs under the CALFED Bay-Delta programs may improve lower American River habitats through time.

The changes in lower American River flows and elimination of upstream gravel replenishment sources brought about by completion of Folsom Dam and Reservoir in 1955 have brought about changes in the composition, size and shape of the river channel. In particular, both riffle area and quality have declined. Without corrective actions, a slow but steady continuance of these changes can be expected. These changes will adversely affect anadromous fish, especially salmonid spawning and rearing conditions.

Conditions for anadromous fish have progressively worsened since 1985 due, in part, to 7 years of drought and a greatly increased use of Folsom Reservoir to provide flows to quickly meet

Delta water quality standards. This has greatly exacerbated existing flow and temperature problems for salmonids and other fish. The poor habitat conditions and general downward trend of natural fish production in the river will likely continue without corrective actions. However, the CVPIA's anadromous fish and instream flow-related provision may ameliorate some of these concerns, assuming that sufficient water remains available to provide for those identified needs and to maintain a pool of cool water in Folsom Reservoir for downstream temperature control. Folsom Reservoir is expected to be managed more for flood control, and so other CVP reservoirs will carry a heavier responsibility to meet Bay-Delta water quality responsibilities. In some water years, Folsom Reservoir water will still be available to quickly respond to flows needed to meet Bay-Delta water quality standards.

Under the without project conditions, aquatic habitats and resources within and adjacent to the drawdown zones of these reservoirs is not expected to change significantly from existing conditions. Without the proposed project, a persisting problem in the American River Basin would be the continued rapid urban growth of cities and unicorporated areas not only within Placer County, but Sacramento County as well. Such growth places greater water demands on the American River system and Folsom Reservoir, thereby incrementally reducing downstream water quality (increasing temperatures) and flows and ultimately further exacerbating lower American River fishery problems.

Terrestrial Resources

Project Area

Terrestrial habitats along the American River upstream and at the project area downstream to Oregon Bar would not occur without construction of the project.

PCWA Service Area

Without the proposed project and additional supply of high quality water, the PCWA would be initially limited to serving its existing service area with water supplies that are currently available. Cites and communities within Placer County might be limited in their approval of development which would minimize additional impacts on terrestrial biological resources because conversion of natural or agricultural lands to urban uses could be slowed. However, even without the proposed project, some land use changes and habitat conversion and growth within PCWA's service area could be accommodated by: 1) increasing the amounts of water diverted at the seasonal pumps, 2) water conservation measures, 3) water exchanges and/or transfers, and 4) the development of alternative water supplies, but at levels that may not meet all of PCWA's future water needs.

American River Basin

Under the without project conditions, terrestrial plants and animals within and adjacent to the drawdown zones of these reservoirs is not expected to change significantly from existing conditions. However, a persisting problem in the American River Basin would be the continued rapid urban growth of cities and unincorporated areas not only within Placer County, but Sacramento County as well.